

# DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS II145-6 Rev. A or later,  
REF. TCCA STC: SH21-24  
REF. EASA STC: 10077436  
REF. FAA STC: SR04694NY

## 1.0 PURPOSE:

It has come to DART's attention that the wiring associated with the 654.6700 Float Kits is missing a relay, which may cause the automatic float switch to fuse in the open or closed position, rendering the system ineffective. Furthermore, a second relay is required to ensure sufficient independence between the float activation switches on the cockpit controls and the water activated switches when the manual pull cable is not installed. This DSI provides parts and instructions for upgrading the Auto Inflation Kits 654.6712, 654.6713, and 654.6719/654.6720 electrical activation assemblies to their revised configurations as defined by 651.4100 Rev. M or later Electrical Activation System.

## 2.0 PROCEDURE:

### 2.1 RELAY INSTALLATION INSTRUCTIONS

The upgraded electrical system requires either one or two relays to be installed in order for the electrical activation to function properly over multiple uses of the system. Follow the appropriate sections depending on which Electrical Activation system is installed.

#### 2.1.1 654.6712 RELAY UPGRADE INSTRUCTIONS

**NOTE:** Upgrade kit DSI 9875-013 required.

**NOTE:** Use wiring schematics 1 in Section 2.2

1. Install two relay sockets (P/N 601.1682) into the relay holder in the cable channel on the FWD RH side of the aircraft as shown in Figure 1 and Figure 2 of this DSI.
2. Install two relays (P/N 601.1627) into the relay sockets.
3. Routing for Switch Relay 1:
  - a. Route wire 4102-M20 from the Instrument Panel to the relay at pin A2.
  - b. Splice wire 4101-M20 to SPDA9 and route to the relay pin X1.
  - c. Splice wire 4123-M20 to SPDA4 and route to the relay pin X2.
  - d. Route wire 4107-M20 from splice SPDA7 to relay pin A1.
4. Routing for Switch Relay 2:
  - a. Install a third circuit breaker (P/N 601.1207) on the overhead panel and wire to the Essential Bus Bar PP10E.
  - b. Route wire 4321-M20 from the overhead panel to a third module (P/N 601.4323), diode (P/N 601.4324), and contact (P/N 601.4325) on the module rail next to the overhead panel on the RH side.
  - c. From the module, route wire 4103-M20 to the instrument panel.

**NOTE:** Wire 4103-M20 will no longer be wired from SPDA1 to SPDA4.

- d. Route wire 4124-M20 from the instrument panel to SPDA12. Splice two 20 AWG wire (MIL Spec per Note 1 of drawing 651.4100 Rev. M) to SPDA12, routing one wire to relay pin A2 and the other to relay pin X1.
- e. Splice wire 4126-M20 to splice SPDA1 and route to relay pin X2.
- f. Route wire 4125-M20 from splice SPDA7 to relay pin A1.
- g. Route wire 4104-M20 from splice SPDA2 to splice SPDA13.


**NOTE:** Wire 4104-M20 will no longer be wired from SPDA2 to SPDA6.

CANADA  
DEPARTMENT OF TRANSPORT  
AIRCRAFT CERTIFICATION  
BRANCH  
DAO # 01-O-01

**APPROVED**

BY:   
D. SHEPHERD (DE # 02)

DATE: 22.10.07  
CERT. NO.: SH21-24  
ISSUE NO.: 1

B	REVISED WIRE CALLOUTS, ADDED FUNCTIONAL TEST	CZ	22.10.07
A	NEW ISSUE	CZ	22.09.01
REV.	DESCRIPTION	BY	DATE
DESIGN	CZ	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	CZ		
CHECKED	JG	DRAWING NO.	REV. B
MFG. APPR.	N/A	DSI 9875	SHEET 1 OF 4
APPROVED	JG	TITLE	SCALE
DE APPR.	DS 	RELAY UPGRADE KIT	NTS
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### **2.1.2 654.6713 RELAY UPGRADE INSTRUCTIONS**

**NOTE:** Upgrade kit DSI 9875-011 required.

**NOTE:** Use wiring schematics 2 in Section 2.2

1. Install one relay socket (P/N 601.1682) into the relay holder in the cable channel on the FWD RH side of the aircraft as shown in Figure 1 and Figure 2 of this DSI.
2. Install one relay (P/N 601.1627) into the relay socket.
3. Route wire 4102-M20 from the Instrument Panel to the relay at pin A2.
4. Splice wire 4101-M20 to SPDA9 and route to the relay pin X1.
5. Route wire 4103-M20 from splice SPDA1 to the relay pin X2.
6. Splice wire 4125-M20 to SPDA6 and route to relay pin A1.
7. From splice SPDA6, route wire 4107-M20 to connector pin A and wire 4124-M20 to connector pin C.
8. Wire 4104-M20 that is spliced to SPDA2 will now be routed to SPDA8 and from there to ground.

### **2.1.3 654.6719/654.6720 RELAY UPGRADE INSTRUCTIONS**

**NOTE:** If the Float Switch (P/N 634.6802) is not installed (654.6719 kit), complete steps 1 to 3 using the DSI 9875-011 kit and wiring schematic 3 in Section 2.2.

**NOTE:** If the Float Switch (P/N 634.6802) is installed (654.6719 and 654.6720 kits), complete steps 1 to 4 using the DSI 9875-013 kit and wiring schematic 1 in Section 2.2.

1. Install one or two relay sockets (P/N 601.1682) into the relay holder in the cable channel on the FWD RH side of the aircraft as shown in Figure 1 and Figure 2 of this DSI.
2. Install one or two relays (P/N 601.1627) into the relay sockets.
3. Routing for Switch Relay 1:
  - a. Route wire 4102-M20 from the Instrument Panel to the relay at pin A2.
  - b. Splice wire 4101-M20 to SPDA9 and route to the relay pin X1.
  - c. Splice wire 4123-M20 to SPDA4 and route to the relay pin X2.
  - d. Route wire 4107-M20 from splice SPDA7 to relay pin A1.
4. Routing for Switch Relay 2:
  - a. Install a third circuit breaker (P/N 601.1207) on the overhead panel and wire to the Essential Bus Bar PP10E.
  - b. Route wire 4321-M20 from the overhead panel to a third module (P/N 601.4323), diode (P/N 601.4324), and contact (P/N 601.4325) on the module rail next to the overhead panel on the RH side.
  - c. From the module, route wire 4103-M20 to the instrument panel.
  - d. Route wire 4124-M20 from the instrument panel to SPDA12. Splice two 20 AWG wire (MIL Spec per Note 1 of drawing 651.4100 Rev. M) to SPDA12, routing one wire to relay pin A2 and the other to relay pin X1.
  - e. Splice wire 4126-M20 to splice SPDA1 and route to relay pin X2.
  - f. Route wire 4125-M20 from splice SPDA7 to relay pin A1.
  - g. Route wire 4104-M20 from splice SPDA2 to splice SPDA13.

### **2.1.4 FUNCTIONAL TEST**

Once the appropriate relay upgrade instructions have been completed, a functional test of the electrical system must be performed. Reference Section 5.4 Electrical Functional Test of ICA145-5 Revision N/C or later.

DESIGN	CZ	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	CZ		
CHECKED	JG	DRAWING NO.	REV. B
MFG. APPR.	N/A	<b>DSI 9875</b>	SHEET 2 OF 4
APPROVED	JG	TITLE	SCALE
DE APPR.	DS	<b>RELAY UPGRADE KIT</b>	NTS
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## 2.2 ELECTRICAL SYSTEM DIAGRAMS

1. See Sheet 3 of 651.4100 Rev. M.
2. See Sheet 5 of 651.4100 Rev. M.
3. See Sheet 4 of 651.4100 Rev. M.

## 3.0 WEIGHT AND BALANCE:

There is negligible weight and balance change associated with these modifications.

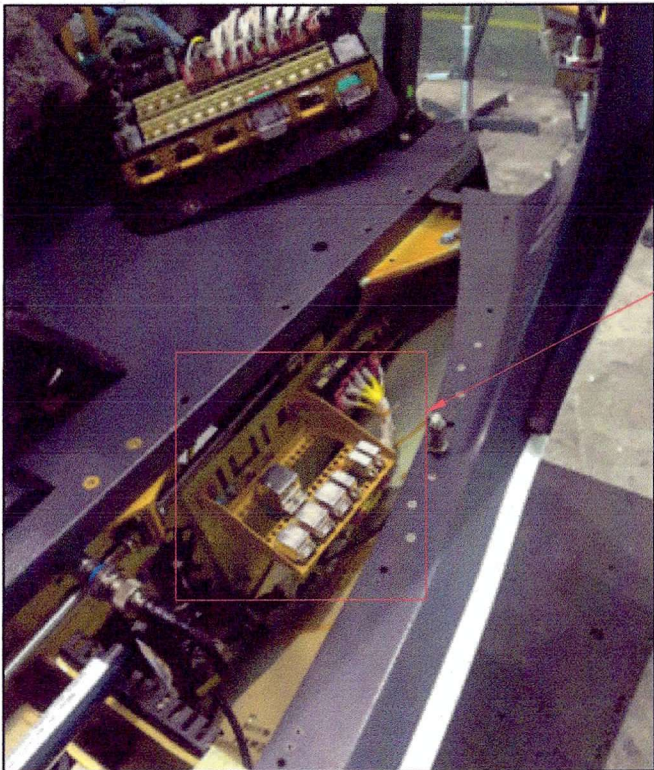
## 4.0 PARTS LIST:

-011 QTY	-013 QTY	P/N	DESCRIPTION
X		DSI 9875-011	Relay Upgrade Kit
	X	DSI 9875-013	Relay Upgrade Kit
1	2	601.1627	Relay (J-D4A-300M)
1	2	601.1682	Relay Socket (MIL-DTL-12883/41)
	1	601.1207	Circuit Breaker
	1	601.4323	Module
	1	601.4324	Diode
	1	601.4325	Contact

DESIGN	CZ	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA
DRAWN	CZ	
CHECKED	JG	DRAWING NO. REV. B
MFG. APPR.	N/A	DSI 9875 SHEET 3 OF 4
APPROVED	JG	TITLE SCALE
DE APPR.	DS-#	RELAY UPGRADE KIT NTS
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5.0 REFERENCE FIGURES:



SEE FIGURE 2

FIGURE 1: RIGHT SIDE CHANNEL, TERMINAL BOARD RAIL

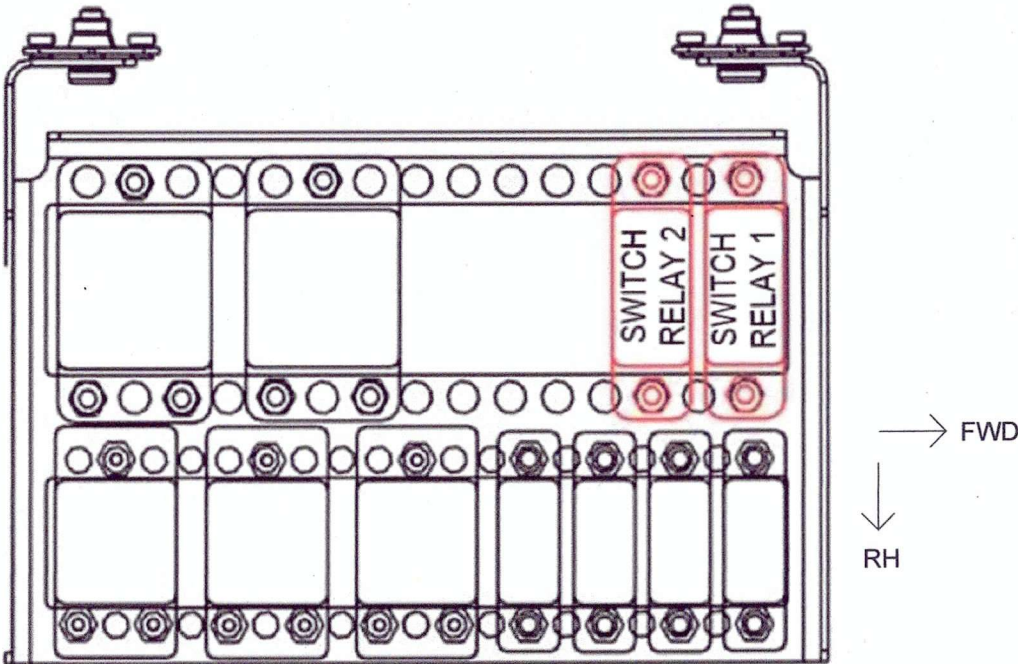


FIGURE 2: RH CABLE CHANNEL RELAY INSTALLATION LOCATION

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DRAWN	CZ		
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MFG. APPR.	N/A	DSI 9875	SHEET 4 OF 4
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